

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 to 40. (*Cancelled*)

41. (*Currently Amended*) A method of increasing the proliferative capacity of a mammalian cell expressing telomerase RNA component, comprising introducing into the cell *in vitro* a recombinant polynucleotide that encodes a protein comprising SEQ. ID NO:2, or fragment of SEQ. ID NO:2 that contains the telomerase T motif:

Trp-X₁₂-Phe-Phe-Tyr-X-Thr-Glu-X₁₀₋₁₁-Arg-X₃-Trp-X₇-Ile (SEQ. ID NO:352)

wherein X_n is a number "n" of unspecified amino acids each chosen independently;

wherein X₁₂ is any 12 amino acids each chosen independently;

wherein X is any amino acid;

wherein X₁₀₋₁₁ is any 10 or 11 amino acids each chosen independently;

wherein X₃ is any 3 amino acids each chosen independently; and

wherein X₇ is any 7 amino acids each chosen independently;

wherein the encoded protein has telomerase catalytic activity when complexed with a telomerase RNA component, and

 thereby introducing the recombinant polynucleotide into the cell increases the proliferative capacity of the cell.

42. (*Previously presented*) The method of claim 41, wherein the cell is a human cell.

43. (*Previously presented*) The method of claim 41, further comprising selecting a cell that expresses increased telomerase catalytic activity as a result of introducing the polynucleotide.

44. (*Previously presented*) The method of claim 43, wherein the cell is a human cell.

45. *(Previously presented)* The method of claim 41, wherein the polynucleotide encodes a full-length telomerase reverse transcriptase.
46. *(Previously presented)* The method of claim 45, wherein the cell is a human cell.
47. *(Previously presented)* The method of claim 45, further comprising selecting a cell that expresses increased telomerase catalytic activity as a result of introducing the polynucleotide.
48. *(Previously presented)* The method of claim 41, wherein the polynucleotide comprises the telomerase reverse transcriptase encoding sequence of SEQ. ID NO:1.
49. *(Previously presented)* The method of claim 48 wherein the cell is a human cell.
50. *(Previously presented)* The method of claim 48 further comprising selecting a cell that expresses increased telomerase catalytic activity as a result of introducing the polynucleotide.
51. *(Previously presented)* The method of claim 50 wherein the cell is a human cell.
52. *(Previously presented)* The method of claim 41, wherein the recombinant polynucleotide is an expression vector.
53. *(Previously presented)* The method of claim 52 wherein the expression vector is an SV40 virus expression vector, an EBV expression vector, a herpesvirus expression vector, or a vaccinia virus expression vector.
54. *(Previously presented)* The method of claim 52 wherein the expression vector is a retrovirus expression vector.
55. *(Previously presented)* The method of claim 52 wherein the expression vector is an adenovirus expression vector.

56. *(Previously presented)* The method of claim 52 further comprising selecting a cell that expresses increased telomerase catalytic activity as a result of introducing the polynucleotide.

57. *(Previously presented)* The method of claim 52 wherein the cell is a human cell.

58-73. *(Cancelled)*

74. *(Previously presented)* The method of claim 41, wherein the cell is an epithelial cell.

75. *(Previously presented)* The method of claim 41, wherein the cell is a keratinocyte.

76. *(Previously presented)* The method of claim 41, wherein the cell is a hair matrix or hair shaft cell.

77. *(Previously presented)* The method of claim 41, wherein the cell is a hepatocyte.

78. *(Previously presented)* The method of claim 41, wherein the cell is an endothelial cell.

79. *(Previously presented)* The method of claim 41, wherein the cell is a cell of the ciliary epithelium of the eye.

80. *(Previously presented)* The method of claim 41, wherein the cell is a cementoblast, odontoblast, osteoblast, or chondrocyte.

81. *(Previously presented)* The method of claim 41, wherein the cell is a heart cell.

82. *(Previously presented)* The method of claim 41, wherein the cell is a lymphocyte.

83-91. *(Cancelled)*